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THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

R E P O R T

relating to the proposed construction of the

STAGE TWO

of the

DARWIN HIGH SCHOOL, NORTHERN TERRITORY

C O N T E N T S

	Paragraph
General	1
Existing High School Facilities	2
High School Education in Darwin	4
Darwin High School, Stage I	7
The Need for Additional Accommodation	10
Enrolments	11
The Work Proposed in the Second Stage	15
Master plan	16
The main building	18
Covered assembly area	24
Bicycle shelter	25
Courtyard and terrace	26
Road work and site beautification	28
Electrical services	29
Mechanical services	32
Air-conditioning	33
Assembly Hall	41
Construction Timetable	48
Estimates of Cost	49
Future needs	51
Summary of Recommendations and Conclusions	53

THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

CONSTRUCTION OF STAGE TWO OF DARWIN HIGH SCHOOL

REPORT

By resolution on 16th May, 1963, the House of Representatives referred to the Parliamentary Standing Committee on Public Works for investigation and report, the proposal to construct Stage 2 of the Darwin High School.

The Committee have the honour to report as follows:-

GENERAL

1. The Committee visited Darwin at the end of May 1963 to inquire into three proposed works, one of which is the subject of this report. Evidence was taken in Canberra and Darwin and an inspection was made of the almost completed first stage of the school. Witnesses included representatives of school parent organizations, the Northern Territory Administration and the Department of Works and citizens of Darwin interested in the proposal.

EXISTING HIGH SCHOOL FACILITIES

2. The present high school is still located at Wood Street under conditions which drew unfavourable comment from the Public Works Committee in their report on the first stage of the Darwin High School in November, 1959.

3. The new building at Bullocky Point is expected to be occupied during August 1963, but it will be necessary to retain some accommodation at Wood Street to provide for overflow from the new school in 1964.

HIGH SCHOOL EDUCATION IN DARWIN

4. When the first stage of the high school was being planned the developing phases of high school education were seen initially to consist of a technical high school providing both academic and technical facilities. Following this there would be an academic high school alongside the technical high school, the latter becoming a technical college.

5. This concept has changed and it has now been decided that the education needs of Darwin should be met by combining, rather than separating, technical and academic training. This calls for a high school in Darwin, under the control of one headmaster, providing for academic and non-academic studies, apprenticeship training and adult education.

6. The change in policy necessitates alteration of the master plan in order to integrate the structures comprising the two stages of the high school and modification of the basic design of the second stage better to suit the new concept.

DARWIN HIGH SCHOOL STAGE 1.

7. The first stage of the Darwin High School provides 12 classrooms in the main block and two in the craft block. By the use of some special rooms as classrooms it will be possible to accommodate 530 pupils. There will be some inconvenience as this is more than the number for which it is designed.

8. It is a three story structure, supported on columns which permit most of the ground floor to be used as covered play space. There is also a trades block and an administration block.

9. The building is not of the "open" type tropical design and therefore does not lend itself to natural ventilation. Although air-conditioning was proposed when the work was referred to the Committee, mechanical ventilation only has been installed.

THE NEED FOR ADDITIONAL ACCOMMODATION

10. When the new building is occupied in August it will be able to accommodate the 503 students enrolled at present. Expected enrolment in 1964 is 594, and the consequence will be that some children, probably in first year classes, will have to be accommodated in old buildings at Wood Street. There will therefore be a shortage of good accommodation within some six months of the opening of the new high school.

11. Enrolments. Witnesses spoke of the difficulty of forecasting high school enrolments in Darwin where there is uncertainty about the

rate of development and of the number of families who will reside permanently. This latter factor makes it difficult to plan even the following year's staffing requirements on the basis of existing primary school enrolments.

12. However, with these qualifications it has been possible to arrive at a rate of increase based on previous years enrolments.

13. Between the census years 1954 to 1961 the average annual rate of increase in enrolment in secondary grades was 18.1 per cent. Year by year the increase has varied widely from this figure. In 1961 it was 9.3 per cent and in 1963, 21.4 per cent. In May this year 503 students were enrolled. On the basis of an annual increase of 18 per cent enrolments in future years will be as follows :-

1964	594
1965	700
1966	827
1967	975
1968	1150

14. The urgent need for the second stage of the Darwin High School is established by these figures which show that in 1964 enrolments will exceed the number which the first stage will be able to accommodate.

THE WORK PROPOSED IN THE SECOND STAGE.

15. Now that all instruction at the Darwin High School is to be under the control of one headmaster it is advisable to provide access between the two main blocks rather than have them separated by a courtyard 200 feet wide, as was proposed in the original master plan.

16. Master plan. The changed concept of the school has also enabled duplicated features to be eliminated and some facilities to be reduced. As a consequence it will be possible to meet all requirements in a three story building identical in size and appearance to the main block in the first stage.

17. By bringing the buildings closer together and linking them at first and second floor levels students will be able to move between classrooms more quickly.

18. The main building. The main frame and floors of the building are to be of reinforced concrete with brick internal partitions. Ceilings in the classrooms will be finished with incombustible acoustic sound absorbent surfaces. The roof will be steel framed with heavy gauge galvanized steel trough roofing. External brickwork and louvred sunscreens will match with the existing building. All materials have been selected to ensure quality, permanence, freedom from maintenance problems and speed in erection. The building has been designed to increase the accommodation of the school to 1000.

19. A demonstration theatre, with tiered seating for approximately 100 people, will be located on the ground floor in a wing matching one in the first stage building which will accommodate the library.

20. Also on the ground floor will be a mechanical plant room, a large covered play area, stores for sports gear, toilets and showers.

21. The first floor will contain twelve classrooms identical with those in the first stage. The rooms will be 26 ft. x 24 ft. There will also be toilets and rest room facilities and a female staff common room.

22. On the second floor there will be seven standard classrooms, a typing room, a study preparation room, physics chemistry and biology laboratories with individual preparation rooms, and a balance room. Toilets and a male staff room will also be on this floor.

23. A bridge between the two buildings will provide horizontal access between them at first and second floor level.

24. Covered assembly area. To enable the 1000 students to assemble together, the covered assembly area provided for the first stage is to be enlarged by extending the existing roofing and paving by one bay in a westerly direction.

25. Bicycle shelter. Covered space to house 100 bicycles is to be provided alongside the drying area at the western end of the first stage building.

26. Courtyard and terrace. The new location of the second stage building necessitates the provision, elsewhere, of space for the courtyard. It will now be located on the northern side of the proposed building where it will be readily accessible from the main entrance to the school and, via covered way, from all other buildings.

27. The courtyard will be paved. It will be useful for physical training classes and as a recreation area for students. A paved terrace on the southern side will provide additional outdoor space for play and recreation.

28. Road work and site beautification. Roadwork will provide access to the main entrance to the school and will include a bus turning circle. Access will also be provided to a staff car park to be laid out in the north western corner of the site. Site beautification will include grassing and planting and the provision of sprinklers and furnishings in the vicinity of the terraced areas.

29. Electrical services. Electricity supply will be provided from the sub-station in the first stage building. Lighting will consist generally of fluorescent fittings and special lighting for the theatre, for exterior decoration and for floodlighting. Power will be distributed to plant, synchronous clocks and general purpose outlets.

30. A thermal alarm system, connected to the local fire brigade switchboard, will provide automatic fire detection.

31. The public address system in the first stage will be extended to provide equipment including classroom speakers, microphones and stands.

32. Mechanical services. Mechanical services will include mechanical ventilation, hot water installation, drinking water coolers and fire extinguishers.

AIR-CONDITIONING

33. As has already been stated the first stage is to be provided with mechanical ventilation only, although provision has been made for air-conditioning. As referred to the Committee in 1959 air-conditioning was included as part of the proposal. In this stage mechanical ventilation is proposed, also with provision for air-conditioning in the future. The plant to be installed will provide air movement only and this will be supplemented by ceiling fans. It will have no capacity to cool the air. Only air-conditioning will control humidity.

34. Witnesses in Darwin were unanimous about the need for air-conditioning and there was strong feeling that the mechanical ventilation system proposed will not provide a desirable degree of relief from the oppressive climatic conditions. As designed, it will not be possible to naturally ventilate the building and there is fear that the installation will not prove to be equal to the task.

35. Our attention was drawn to statements in the Commonwealth Year Book (1962 page 30) which gives 74°F . as the winter temperature and 79°F . as the summer temperature above which no people feel comfortable and 0.2 to 0.5 inches as the limits of comfort of vapour pressure.

36. The following statistics from the Commonwealth Year Book 1962 (page 54) are included in order to show how infrequently the Darwin climate falls within the ranges of comfort.

Month	Mean Temperature Of 30 years.			Vapour Pressure (inches)
	Mean Max.	Mean Min.	Mean	Mean 9 a.m.
January	89.9	77.3	83.6	0.925
February	89.8	77.1	83.4	0.920
March	90.2	77.1	83.6	0.912
April	91.9	75.9	83.9	0.800
May	90.9	72.6	81.4	0.652
June	87.5	69.5	78.5	0.545
July	86.6	67.8	77.2	0.522
August	88.5	69.7	79.1	0.613
September	91.0	73.9	82.5	0.732
October	92.6	77.2	84.9	0.832
November	93.2	78.2	85.7	0.868
December	92.0	78.1	85.0	0.890
Year averages	90.3	74.5	82.4	0.764

37. We emphasize the need to make living conditions in the north more attractive if more people are to be encouraged to settle there permanently. Air-conditioning has been provided in the Administrative Offices and the Post Office and is to be provided in the Court House, and the new hospital block and nurses' home. In our view the case is at least as strong for the school.

38. We did not hear evidence of the considerations which led to the decision to defer installation of air-conditioning hence we are unable to express any opinion on them. We realise that the availability of funds needs to be taken into consideration but, in the light of decisions covering other buildings, the apparent inconsistency puzzles us.

39. We are also concerned to note that the Department of Territories found it necessary to give an undertaking to the Department of the Treasury not to raise the question of air-conditioning until approval had been given for the second stage building. Why such an undertaking should be sought or given we do not know.

40. Recently this Committee drew attention to the need to establish principles about the need or otherwise for air-conditioning in Commonwealth buildings generally. As far as Darwin is concerned we are in no doubt that the high school should be air-conditioned and strongly recommend it in both the first and second stages.

ASSEMBLY HALL.

41. In reporting on the proposal to erect the first stage of the Darwin High School the Committee were satisfied by the weighty evidence then presented that an assembly hall to accommodate 1000 children should be included in the work proposed and they recommended accordingly. The recommendation was not accepted.

42. The absence of an assembly hall in the reference now before the Committee has dismayed those interested in education in Darwin and resulted in a considerable portion of the evidence being devoted to the need for one.

43. The Darwin community, as it grows, includes increasing numbers of people who, from their life in southern cities, are particularly conscious of the absence of the amenities which are taken for granted in less isolated centres. There seems to be a strong desire to develop cultural activities in which they can take part. The absence of facilities in the schools reduces the prospect of developing such interests in those who will be Darwin's future citizens.

44. More important however, is the absence of facilities which handicap enthusiastic teaching staff in their efforts to develop a strong school spirit among students. The absence of a school assembly hall can at times be partly overcome by the availability of suitable public halls nearby but such an alternative, even if it were available in Darwin, could only be used for limited activities and with loss of time in moving to and from it.

45. So that the Darwin High School can enjoy drama, orchestral work, debating, student social evening, concerts and parent activities in proper surroundings an assembly hall would be needed. Such a hall would also provide a suitable venue for public examinations, could be used for gymnastic work out of the heat and would give the rest of the school the opportunity to watch, as a critical audience, the performance of those entered for the Darwin Bistoddfod.

46. The Committee debated the need for an assembly hall and finally decided that construction if as part of the second stage development should be recommended. The following extract is from the *Minutes of the meeting* at which this was discussed.

"It was moved by Mr. Griffiths, seconded by Mr. McIvor, that a draft report be prepared recommending the work proposed but with full air-conditioning for the Darwin High School and the construction of an air-conditioned assembly hall for 1000 children in the second stage of development.

Debate ensued.

An amendment was moved by Mr. Buchanan, seconded by Senator Prowse that the reference to the assembly hall be deleted from the recommendation.

Debate ensued.

The Committee divided on the amendment:-

Ayes (2)
 Mr. Buchanan
 Senator Prowse

Noes (5)
 Senator Dittmer
 Mr. Dean
 Mr. Griffiths
 Mr. Brimblecombe
 Mr. O'Connor.

and so it passed in the negative.

The Committee divided on the motion :-

Ayes (5)
 Senator Dittmer
 Mr. Dean
 Mr. Griffiths
 Mr. Brimblecombe
 Mr. O'Connor

Noes (2)
 Senator Prowse
 Mr. Buchanan

and so it was resolved in the affirmative."

47. Construction of the work proposed is therefore recommended but with full air-conditioning for the Darwin High School and also the construction of an air-conditioned assembly hall for 1000 children in the second stage of development. Air-conditioning would add £134,000 to the estimated cost while the cost of an assembly hall was estimated to be of the order of £100,000, when the proposal was before the Committee in 1959.

CONSTRUCTION TIMETABLE

48. The work is expected to take 18 months to complete and, provided it is commenced early in the 1964/65 financial year, should be ready for occupation when school commences in January 1966.

ESTIMATES OF COST

49. The estimated cost of the work proposed, as referred to the Committee, is £380,000 made up as follows :-

Buildings		£
Including main school, terrace, courtyard and bicycle shelter		274,000
Services		
Water supply, sewerage, storm- water etc.	13,000	
Mechanical equipment including hot water etc., air-conditioning to theatre only	43,000	
Electrical work including thermal alarms, clocks, public address system etc.	<u>20,000</u>	76,000
Roadwork		
Including parking areas		25,000
Site beautification		
Including grassing, sprinklers, planting etc.		<u>5,000</u>
		<u>£380,000</u>

50. Air-conditioning of both stages would add approximately £134,000 to the cost and an assembly hall an amount in the vicinity of £100,000. The cost of the work as recommended by the Committee is therefore of the order of £614,000.

FUTURE NEEDS

51. With the two stages of development providing accommodation for 1000 students, the Darwin High School will reach its optimum size. Further secondary accommodation will involve the erection of another high school.

52. As the Darwin High School will be fully occupied by 1967/68 at the latest the need is stressed for early reservation of a suitable site for another high school. A new school will be an inevitable requirement. To avoid characteristic last minute rush to pass proposed work through the various design list stages and to commence construction, early admission to design list status of a new high school proposal for Darwin is urged.

SUMMARY OF RECOMMENDATIONS AND CONCLUSIONS

53. The recommendations and conclusions of the Committee, arrived at after studying the evidence and material submitted are set out below and alongside each is shown the paragraph to which it refers.

	Paragraph.
(1) Within some six months of opening, Stage I of the Darwin High School will be unable to accommodate all secondary school children.	10.
(2) There is an urgent need for the second stage of the Darwin High School.	14.
(3) Air-conditioning of both stages of the Darwin High School is strongly recommended.	40.
(4) Construction of the work proposed, but with full air-conditioning and also the construction of an air-conditioned assembly hall for 1000 children is recommended	47.
(5) The estimated cost of the work proposed as referred to the Committee is £380,000	49.
(6) The estimated cost of the work, as recommended by the Committee, i.e. of the order of £514,000	50.
(7) The early reservation of a suitable site and the early admission of a new high school to design list status is urged	52.

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R. L. Dean

(R.L. Dean)
Chairman.

22 AUG 1963